



Biomass Program

Integrated Biorefineries R&D

Southeast Alaska Wood Residue Biorefinery

Sealaska Corporation, a Regional Native American Corporation, is the largest private landowner in Southeast Alaska and owns a timber company. Sealaska wants to minimize the wood residues generated by the timber operations by converting them to useful products such as ethanol and power. The goal of this congressionally-mandated project is to design an integrated biorefinery to convert wood residues to fuel ethanol.

The residues will be gasified to produce syngas, which will be cleaned and conditioned prior to being fermented to fuel-grade ethanol. Waste heat will be recovered from the hot gasifier off-gas and used to generate steam for on-site power generation. Unreacted syngas will also be burned for on-site generation.

Researchers must overcome several barriers, including processing of the wet, chloride-contaminated feedstock. In high-temperature environments such as gasifiers, chloride is highly corrosive and can damage process equipment. In

choosing construction materials, project participants will need to consider the ability of the material to withstand such conditions.

R&D Pathway

Tasks to be completed include review of gasification technology packages/costs and technology selection, initial feed testing, fermenter testing, integrated bench test, pilot testing, design data and cost, stage gate review.

Benefits

- Wood residue management
- Ethanol from low-value lignocellulosics

Applications

This project will enable the full utilization of forest resources and serve as an example for other timber companies.

Project Partners

Merrick & Company
Sealaska Corporation

Project Period

FY 2002 – FY 2005

For more information contact:

Jim Spaeth
DOE Golden Field Office
Jim.Spaeth@go.doe.gov

EERE Information Center
1-877-EERE-INF (1-877-337-3463)

**Visit the Web site for the Office of the
Biomass Program (OBP) at**
www.eere.energy.gov/biomass.html

September 2004